

## **METHOD AND APPARATUS FOR SUPERWORD REGISTER VALUE NUMBERING**

### **ABSTRACT**

A method and apparatus for superword register value numbering includes hashing an operation code and the value numbers of a plurality of sources to generate a first hash value. The method and apparatus further includes retrieving an operation value number from the first hash table based on the first hash value. The method and apparatus further includes generating a result value number based on a previous bit hash value and the operation value number. The result value number is a combination of the operation value numbers for each component having a live indicator and a previous value numbers for the components without the live indicator. Thereupon, the method and apparatus includes searching a second hash table using the result value number. As such, the method and apparatus provides using two separate hash tables for value numbering with superword instructions.